

### **REMARKS/ARGUMENTS**

Claims 1-19 remain in this application. Claim 9 has been amended. Claims 1-8 have been withdrawn as a result of an earlier restriction requirement. In view of the examiner's earlier restriction requirement, applicant retains the right to present claims 1-8 in a divisional application.

#### **Drawings**

In the previous Office action the Examiner indicated that the drawings are informal and required new drawings. Accordingly, Applicants submit, herewith, formal drawings. There are no substantive changes to the drawings.

#### **Claims Rejections-35 USC 102**

**Claim 18 stands rejected under 35 USC 102 (e) as being anticipated by Chen (US Pat. No. 6,108, 469)**

The Office Action states that "Chen discloses a method of switching optical signals", including the step of "(a) switching the switching device (such as 701, fig. 7) to pass through state (col. 5, lines 20-22)"

Applicants respectfully disagree with this assertion. The component 701 is not a switching device, but a 50/50 coupler (see col. 5, ln 20, of the Chen reference). A 50/50 coupler is not switchable, but merely divides the incoming light into two parts (50/50), wherein one portion of light (50% of light) propagates along towards one exit port of the coupler towards grating 702 and the other portion (50%) of light is propagated towards the second exit port of the coupler towards grating 703. Applicant's specification illustrates (see Figs. 2 and 4, for example) that the applicants' device is indeed switchable, for example, via bending switches 22A, 22B. No such switches are disclosed to by the Chen reference.

The Chen device (fig. 7) includes components 705 and 706, which are referred to as switches by this reference. However, the Chen device operates differently from the applicant's claimed device, because the Chen device has no "pass through state", as claimed in claim 9. The pass through state allows for advantageous non-interruptive configuration while the grating is being tuned, (see pg. 4, lns. 33-35 of the Applicant's specification), a feature that is absent in the Chen reference.

Therefore, Claim 18 is not anticipated by the Chen reference (US Pat. No. 6,108, 469).

### **Claims Rejections-35 USC 103**

**Claim 19 stands rejected under 35 USC 103(a) as being obvious over Chen (US Pat. No. 6,108, 469)**

Claim 19 depends from claim 18 as its base claim and, therefore, incorporates all of the language of claim 18. Since claim 18 is not anticipated by this reference, claim 19 can not be obvious over this reference. As stated above, the Chen reference does not disclose a switching device. This reference also does not disclose any kind of switch actuator, because there is no switch to be controlled.

Therefore, Claim 19 is not obvious obvious over Chen (US Pat. No. 6,108, 469).

**Claims 9, 11-17 stand rejected under 35 USC 103(a) as being obvious over Chen (US Pat. No. 6,108, 469) in view of Pafchek et al (US Pat. No. 6,699,544)**

The Office Action states that "Chen discloses an adjustable optical switching device (fig. 8)" comprising "(d) a first switch (701) coupled to said first or second optical waveguide for coupling signal from said input port into one or another of said waveguides; and (e) a second switch (704) coupled to said first or second optical waveguide for coupling signal from one of said first and second optical waveguides into said output port."

The Office Action also states that Chen does "not clearly disclose the (first and second switch which is selectively." It is noted by the applicants that the items 701 and 704 of the Chen reference are 50/50 coupler and are not switches. The couplers 701 and 704 are

not capable, without further modification, of selectively coupling light into one or another waveguide (but not both).

The Office Action also stated that the "Pafchek discloses the couplers (20, 22) (switches) are selective or controllable (see Fig. 1) (Pafchek, col. 4, lines 56-67 and col. 5, lines 38-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use coupler(s) as taught by Pafchek as a switch device into the system of Chen in order to route signal. One would have motivated for doing this since with controllable features, its enhance the flexibility of the system, to overcome the insertion loss (col. 5, lines 1-15)."

Claim 9 has been amended to state that "a first switch [is] selectively coupled to said first or said second optical waveguide for coupling signal light from said input port into either one or another of said waveguide" (i.e., not in both at the same time).

Neither the Chen reference, nor the Pafchek reference disclose this feature. The Pafchek device is capable of some coupling ratio adjustment, but the reference does not teach, nor suggests complete swtchability of the signal from one waveguide into another waveguide. The ratiuous suggested by the Pafchek reference are 50/50 (col. 4, ln. 65), 30/70 and 70/30 (col. 5, lns. 50-53). That is, the 50/50 coupler of the Chen reference and the Pafcheck device shown in Fig. 8 always provide light to both sets of waveguides. In the applicant's device, the signal light is switched from propagating from one waveguide to propagating through the other waveguide.

Because the two cited references, in combination, do not disclose all of the features called for in claim 9, claim 9 is not obvious over these references.

Furthermore, the Check reference did not suggest or imply that its device suffers from extensive insertion loss, or that the insertion loss was a problem that needs to be addressed. The Check device functions fine for its intended use. Accordingly, there was

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no need to modify the Chen device, in a manner suggested by the Examiner, by addition of Pafchek component(s).

Accordingly, applicants respectfully submit that claim 9 is not obvious over the Chen and Pafchek references.

Claims 11-17 depend from claim 9 as its base claim and, therefore, incorporate the language of claim 9. Accordingly, claims 11-17 are also not obvious over the Chen and Pafchek references.

**Claim 10 stands rejected under 35 USC 103(a) as being unpatentable over Chen (US Pat. No. 6,108, 469) in view of Pafchek et al (US Pat. No. 6,699,544), as applied to claim 9, and further in view of Zhao, et al. (US Pat. No. 6,490,391 B1)**

Claim 10 depend from claim 9 as its base claim and, therefore, incorporates the language of claim 9. Accordingly, claim 10 is not obvious over the cited references for the same reason that claim 11 is not obvious over s 11-17 are also not obvious over the Chen reference (US Pat. No. 6,108, 469).

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### Conclusion

Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should applicant be in error, applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Svetlana Short at (607) 974-0412

Respectfully submitted,

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